

Claims

1. A composition comprising an encapsulated crystalline lactic acid particle.
2. The composition of Claim 1 wherein the crystalline lactic acid particle comprises crystalline L(+)-lactic acid.
3. The composition of Claim 1 wherein the crystalline lactic acid particle is encapsulated within a food-grade coating material comprising oil, fat, wax, carbohydrate, protein, polymer, or a mixture thereof.
4. The composition of Claim 3 wherein the food-grade coating material has a melting point between about 35 and 90°C.
5. The composition of Claim 1, wherein the food-grade coating material is a vegetable oil.
6. The composition of Claim 1, wherein the crystalline lactic acid particle has been treated with a wetting agent prior to or during encapsulation.
7. The composition of Claim 6 wherein the wetting agent is silica, starch, calcium lactate, methyl cellulose, or a combination thereof.
8. The composition of Claim 1 further comprising silica powder as a wetting agent and a partially hydrogenated fraction of a palm oil melting at 61°C as an encapsulating coating.
9. The composition of Claim 1 wherein the encapsulated particle comprises up to 95%(w/w) lactic acid based on the total weight of the encapsulated particle.

10. The composition of Claim 8 wherein the coating material or coating material plus wetting agent represents about 5 to 70%(w/w) of the encapsulated particle.
11. The composition of Claim 8 wherein the coating material or coating material plus wetting agent represents about 30 to 60%(w/w) of the encapsulated particle.
12. The composition of Claim 1 wherein, upon dispersion in water at room temperature, less than 10%(w/w) of the lactic acid is released into the water after 60 minutes.
13. A food product composition comprising the encapsulated crystalline lactic acid particle of Claim 1.
14. The food product composition of Claim 13 wherein the food product comprises a comminuted meat product, a bakery product, or an acid-sanded candy.
15. A method of preparing a food product comprising adding encapsulated crystalline lactic acid particles to the food product whereby the color, flavor, or shelf-life of the food product is enhanced compared to a similar food product prepared without adding lactic acid.
16. The method of Claim 15 wherein the food product comprises a comminuted meat product, a bakery product, or an acid-sanded candy.
17. The method of Claim 15 comprising the acid-sanding of candies wherein the candies are acid-sanded with encapsulated crystalline lactic acid particles.

18. A method of preparing encapsulated crystalline lactic acid particles comprising:
preparing crystals of lactic acid; and
coating the crystals with an encapsulating coating material.
19. The method of Claim 18 wherein the lactic acid crystals are about 200 to 800 microns in size.
20. The method of Claim 18 wherein the lactic acid crystals are encapsulated using a top-spray fluid bed coater.